

## REMARKS

Claims 1 to 11 remain in the application without amendment. Claim 12 has been added. As discussed during the interview, the tapered cross section is shown in Figure 2. As highlighted during the interview the references do not show the solid annular section, and having annular sections on both sides of the solid annular section. Further, interpreting a metal wrap in a flame filter as an annular section is simply incorrect. The metal wrap forms part of the passages—i.e., it is part of the passages—it can't be both an annular section and part of the passages. Moreover, the declaration filed in the case already shows the difference between a solid annular section that is sufficient sized to dissipate heat in a concentric region within the flow cross-section (as required in the claim) and one that does not (and a metal wrap that is part of the passages certainly does not).

It is noted that any rejection against the instant claims versus U.S. Patent No. 7,241,137 has been vacated. The current Office Action raises a new ground of rejection.

Claims 1 to 8 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,179,608 to Kraemer et al. in view of U.S. Patent No. 5,415,233 to Roussakis et al. It is believed that the Examiner meant to include claims 9, 10 and 11 in this rejection since those claims are specifically mentioned in the body of the rejection. This rejection is respectfully traversed for the reason that the combination of Kraemer et al. and Roussakis et al. neither shows nor teaches or otherwise suggests the claimed invention.

In making this rejection, the Examiner states that “Boundaries notwithstanding between the separations, Kraemer et al does not teach its separation for any use, such as heat dissipation or for the prevention of thermal conductivity between sections.” The Examiner made the same statement in the Office Action mailed June 16, 2009, yet in the current Office Action he also repeats a statement, reference to claim 4 that “Kraemer et al discloses that the concentric section (60) is formed possibly of highly thermally conductive material (Col. 8, lines 11-12).” It is not understood why the

Examiner persists in this obvious a misrepresentation of the hub 60 since the correct quote at column 8, lines 11 and 12 is "A solid hub is fabricated from solid round stock of an appropriate material" (emphasis added). Why does the Examiner persist in substituting the words "highly conductive material" for the correct quotation of "appropriate material"? Moreover, at line 44 of column 8, the hub 60 is described as being "optional". In other words, the Examiner is correct on the one hand that "Kraemer et al does not teach its separation for any use, such as heat dissipation or for the prevention of thermal conductivity between sections" but entirely incorrect is alleging that the hub 60 is made "possibly of a highly thermally conductive material".

Claim 1 recites "A permanently fireproof flame guard having a flow cross section that terminates a conduit, in which there is a flame guard insert having a large number of passage gaps ensuring that it is permanently fireproof, characterized in that, within the flow cross section, at least one concentric solid annular section is formed so as to be solid without the passage gaps, and that on both sides of said at least one solid annular section there are annular sections having the passage gaps, wherein said at least one solid annular section is sufficiently sized to dissipate heat in the concentric region within the flow cross section" (emphasis added). Claim 9 is similar except that it recites "a flame guard insert having a plurality of flame guard sections arranged concentrically in relation to one another and divided radially from one another by concentric solid annular sections" (emphasis added).

It should be noted that Kraemer et al. and Roussakis et al. provide substantially the same disclosure as each other and as documents previously cited in the case, and, like any relevance to the claimed features of the invention. Kraemer describe fabrication of a flame arrester formed by winding up a smooth metal band and a corrugated metal band together so as to form gaps which are defined by the corrugation of the corrugated band. Similarly, Roussakis disclose a hub 68 in the center of the flame arrester upon which multiple concentric in between each pair of which is a crimped ribbon which serves the same purpose of providing gaps (although the product is more difficult to produce in Kraemer).

As recited in claim 1, at least one concentric solid annular section is to be

formed which is solid without passage gaps. Furthermore, on both sides of said at least one solid annular section there are annular sections that have passage gaps.

Accordingly, the smooth band needed for forming the passage gaps cannot be a solid concentric annular section as recited in claim 1.

This had been stated very clearly in the declaration under 37 C.F.R. §1.132 of Christoph Leinemann and Thomas Heidermann which was filed June 3, 2009.

Christoph Leinemann and Dr. Heidermann state in their declaration that, obviously, there is an annular section with passage gaps only on one side, namely radially outwards from hub 60. Additionally, the Examiner referred to the solid-line separations 75 (see Figure 3) between each concentric gap ring of Kraemer et al., suggesting that these might be interpreted as solid annular sections. The solid-line separations 75 represent the smooth band which is in a usual way spirally wound up together with a corrugated band (76) in order to produce the well-known flame arrester having the flame extinguishing gaps. The smooth band (75) is necessary for establishing gaps of a defined size. Therefore, the smooth band is part of the gaps which cannot be formed in a stable and well-defined manner by the corrugated band without the smooth band. Therefore, it is not possible to regard the smooth band as a concentric solid annular section having no passage gaps; rather, it is part of what makes the passages. With respect to claim 6, there is no suggestion in Kraemer et al. to wind the smooth metal strip directly, i.e., without the intermediate corrugated strip, on itself, in order to perform the annular concentric section without gaps by means of several windings of the smooth strip or band.

It should be noted that the Examiner is clearly wrong in stating that the concentric rings 90 of Roussakis et al. are disclosed to serve the purpose of cooling. The cooling is done by all walls of the gaps formed by the smooth bands, wraps 88, 90, and the crimped metal ribbon 86 located in between. Roussakis et al. do not address a spiral winding of a smooth band together with the crimped (corrugated) metal band but instead concentrate rings with the crimped metal ribbon in between, which serve the very same purpose, but are more difficult to be produced. Therefore, the wraps 88, 90 establish the gaps of the flame arrester and do not form an additional

concentric ring without gaps serving to dissipate heat from the regions where the passage gaps are located. The gaps of Roussakis et al. cannot be formed without the wraps 68, 70.

A key feature of the claimed invention is the provision of at least one concentric annular section of highly thermally conductive material that subdivides the flow cross section into a plurality of annular flow areas. This concentric section is formed as a solid without passage gaps and serves to limit impermissible heating in the radial inner region of the flame guard. Christoph Leinemann and Dr. Heidermann performed experimental tests which are reported in the declaration. These tests demonstrate the basis on which they have reached their conclusions as reported in their declaration.

In short, the flame arrestors of Kraemer and Roussakis have gaps which surround a central hub. In this sense, the flame arrestors of Kraemer and Roussakis are annular in that there are gaps for fluid flow on either side of a central hub. However, this is not what is being claimed. In contrast, the claims require (1) one solid annular section without passages wherein the solid annular section is sufficiently sized to dissipate heat in the concentric region, and (2) annular sections on both sides of the one solid annular section. Kraemer and Roussakis might have been interpreted incorrectly by the Examiner to show an annular section with gaps similar to one of the annular sections required in item (2) (the undersigned not agreeing that this is what is shown and pointing out the flame arrestors are not the same thing as what is being claimed). Even with such an incorrect interpretation, they do not show annular sections on both sides of one solid annular section as specified in (2), and they both wholly lack the central annular section sized to dissipate heat in the concentric region within the flow cross section as specified in (1).

As best can be determined, the Examiner is trying to use what is shown in Kraemer and Roussakis as three different elements in the claimed invention—his reasoning suggests that he is reading Kraemer and Roussakis as showing not just one, but two differing annular sections; that these two different annular sections are positioned on either side of a central annular section without passages which is sized

to dissipate heat. This is simply improper. Kraemer and Roussakis, at best, show one annular section, not two, and Kraemer and Roussakis clearly lack the central annular section sized to dissipate heat as well as the positioning of annular sections on either side of this wholly missing central annular section.

This difference is highlighted in the declaration of Leinemann and Heidermann at items 6-8 where the prior art Leinemann and Kraemer flame arrestors are differentiated from the claimed fireproof flame guard. Leinemann is similar to the Roussakis and Kraemer devices in that it shows a flame arrestor with a central hub with a plurality of passages there around formed by wrapping smooth and crimped bands together (although it has several different features which lead to its patentability). However, as clearly explained in the declaration of Leinemann and Heidermann at item 6 this design is not a permanent fireproof flame guard which has gaps for gas flow in a radial direction which are interrupted by at least one solid annular section having no gaps where there is no fluid flow. Test data in item 8 of the Leinemann and Heidermann demonstrate the need for at least one solid annular section is sufficiently sized to dissipate heat in the concentric region within the flow cross section, as failures were noted when this was not present.

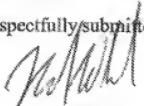
As the references at issue wholly lack the salient features of the claimed invention, the rejections should now be withdrawn.

In view of the foregoing, it respectfully requested that the application be reconsidered, that claims 1 to 12 be allowed, and the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Respectfully submitted,



Michael E. Whitham  
Reg. No. 32,635

Whitham, Curtis, Christofferson & Cook, P.C.  
11491 Sunset Hills Road, Suite 340  
Reston, VA 20190

Tel. (703) 787-9400  
Fax. (703) 787-7557

Customer No.: 30743